

## ON SOME NEW ACARINE PARASITES OF RATS.

BY STANLEY HIRST.

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Four undescribed mites from rats are dealt with in the present note, one being a new species of *Laelaps* (*Haemolaelaps*), which has a wide distribution, occurring in Ceylon, India, Africa and South America; the three others are larval forms of TROMBIDIIDAE, and they are the first parasites of this kind to be collected in India; my best thanks are due to Dr. Nelson Annandale and Mr. F. H. Gravely for their kindness in sending me these interesting Acari. I must also thank Mr. Engel Terzi for his carefully prepared drawings of these species.

Genus LAELAPS, C. L. Koch.

Subgenus *Haemolaelaps*, Berlese.***Laelaps nuttalli***, sp. nov. (figs. 1, 2).

♀. *Body* fairly long oval, being considerably longer than wide. *Dorsal surface* almost entirely covered by the scutum, but a narrow marginal strip of unprotected

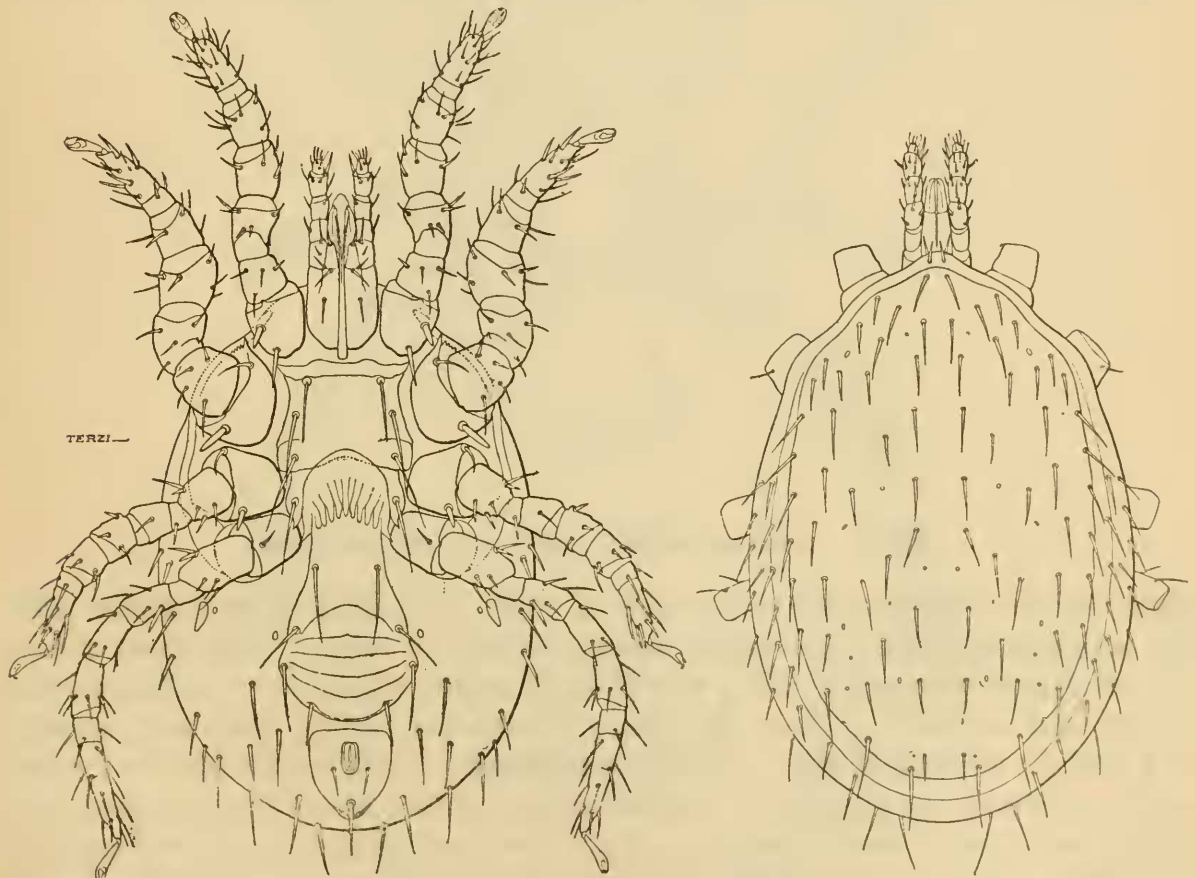


Fig. 1. *Laelaps nuttalli*, Hirst, sp. n., ♀; ventral and dorsal aspects.

integument is visible posteriorly in distended specimens. Hairs at hinder end of body longer than those on the scutum. *Scutum* ornamented with a very fine sculpturing formed of numerous lines, nearly all of which are transverse in direction and

anastomose with one another; the surface is also rendered somewhat uneven by the minute pits from which the hairs spring. Hairs numerous and mostly rather short, but those on the hinder margin are longer, especially the median pair. Hairs on *ventral surface* few in number and fairly long, but not so long as in *L. hilaris*, C. L. Koch. *Sternal plate* wider than long and with fine linear markings on it, somewhat similar to those present on the scutum; it is provided with three pairs of long fine hairs. *Genito-ventral plate* rounded off posteriorly and not very wide; there are five (not six, as figured) transverse lines (similar to those found on the same plate in certain species of the genus *Hypoaspis*), running across its surface and dividing it into six segments, the first being much the largest and furnished with two pairs of hairs, whilst the last is very short and easily overlooked; in all, there are four pairs of hairs on this plate, and they are long and setiform. There is a very minute platelet on each side of the genito-ventral

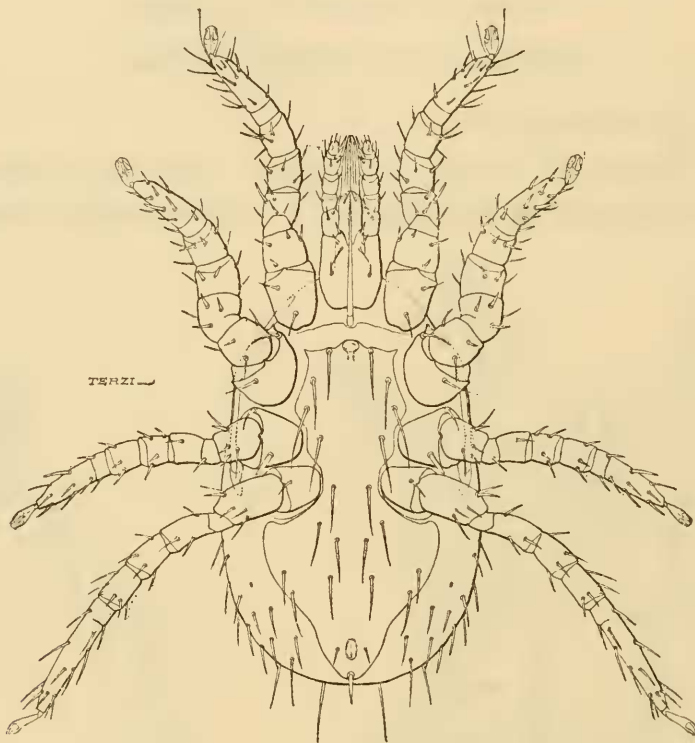


Fig. 2. *Laelaps nuttalli*, Hirst, ♂; ventral aspect.

plate, almost opposite the second pair of hairs, and another very similar platelet is situated further outwards (nearer to the last coxa). The usual comma-shaped platelet is present and it is very different in shape from that of *L. hilaris*, being narrow and elongated. *Anal plate* with the anterior margin practically straight, and with the three usual hairs. *Peritreme* apparently extending about as far forwards as the middle of the first coxa. Narrow central groove of the lower surface of the *capitulum* furnished with denticles. *Legs*: first and second legs stout, especially the latter; the fourth leg is fairly slender and is the longest; most of the hairs on the legs are rather short and subspiniform, but slender; there are one or two strong spines on the second tarsus and two or three on the third tarsus, besides the more slender ones; fourth tarsus furnished with rather slender setae of moderate length. *Colour* (in spirit) pale yellow to deep brown. Length of body .62 mm.; width .44 mm.

♂. Style of *chelicera* not very long and very like that of *L. echidninus* in appearance. *Ventral plate* shaped as shown in figure 2; there are eleven pairs of slender setae on it and they are all fairly long, except the last pair; the usual unpaired hair is also present. *Peritreme* apparently almost as long as in the female. *Length* of body .45 mm.; the width .27 mm.

CEYLON: Colombo, a number of specimens from *Mus rattus* and *M. norvegicus* (Dr. L. F. Hirst) (the types). INDIA: Calcutta, specimens found on *Nesokia (Gunomys) bengalensis*, 22.iii.15, and on *Mus rattus*, 10.iii.15 (C. Paiva). SIERRA LEONE: Freetown, numerous specimens taken on *Mus norvegicus*, xi.1914 (A. W. Bacot). DUTCH GUIANA: Paramaribo, a number of examples from *Mus norvegicus*, 27.vii.08; presented to the Quick Laboratory, Cambridge, by the Hon. N. Charles Rothschild, and kindly lent me for examination by Prof. G. H. F. Nuttall, F.R.S.

***Dermanyssus muris*, Hirst.**

*Additional locality.* Central Formosa (Holst Coll.); host not given.

Genus MICROTHROMBIDIUM, Haller.

***Microthrombidium gliricolens*, sp. nov. (figs. 3, 4).**

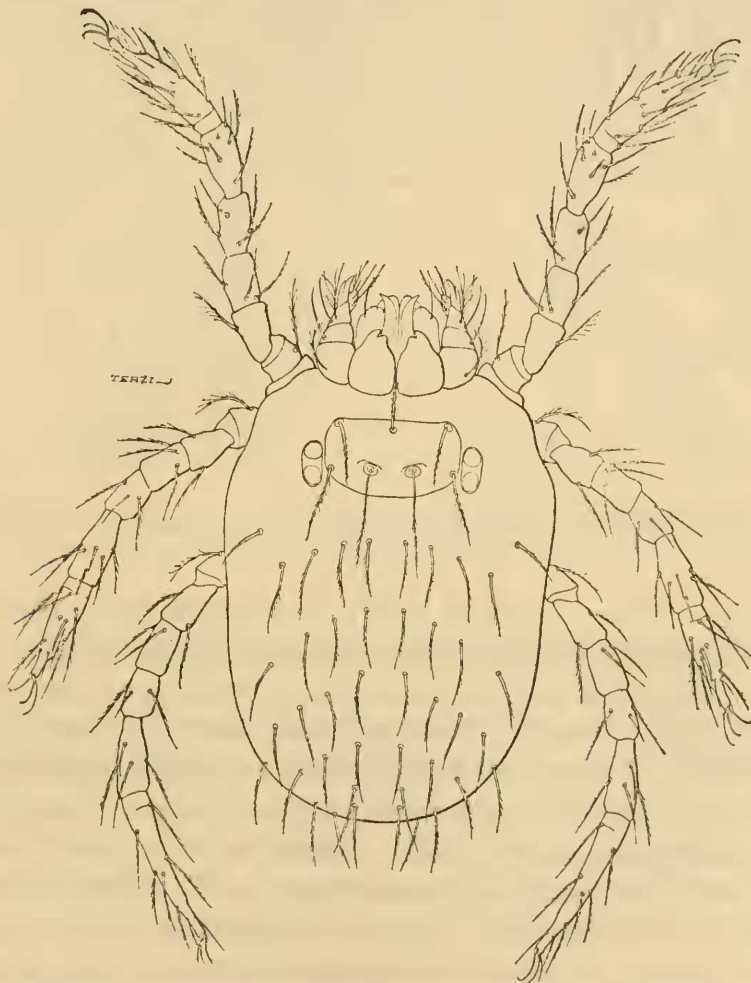


Fig. 3. *Microthrombidium gliricolens*, Hirst, sp. n.; dorsal aspect.

*Dorsal surface.* Scutum much wider than long (width .069 mm., length .04 mm.), its anterior edge straight, but the posterior edge distinctly curved; seven hairs are

present on its surface, the *pseudostigmata*, which are the longest, being placed well behind the middle. Ocular shield normal in appearance; both eyes are present and circular in shape. A little in advance of the middle of the body, there is a transverse row of ten hairs, the outermost hair on each side being situated somewhat in front of the others. Three transverse rows, each consisting of eight hairs, are also present posteriorly on the dorsal surface and a few additional hairs at the extreme hinder end of the body. All the hairs, both on the scutum and on the rest of the dorsal surface are strongly plumose. *Ventral surface.* Coxae each provided with a single hair. Most of the hairs on the lower surface of the body are considerably shorter than the dorsal hairs; but the two anterior pairs of hairs situated between the coxae are long, especially the first pair, and there are some fairly long hairs at the hinder end. *Palp.* Femur with a strongly plumose hair on its dorsal surface; the dorsal hairs on the other segments apparently being plain. Claw forked, the accessory

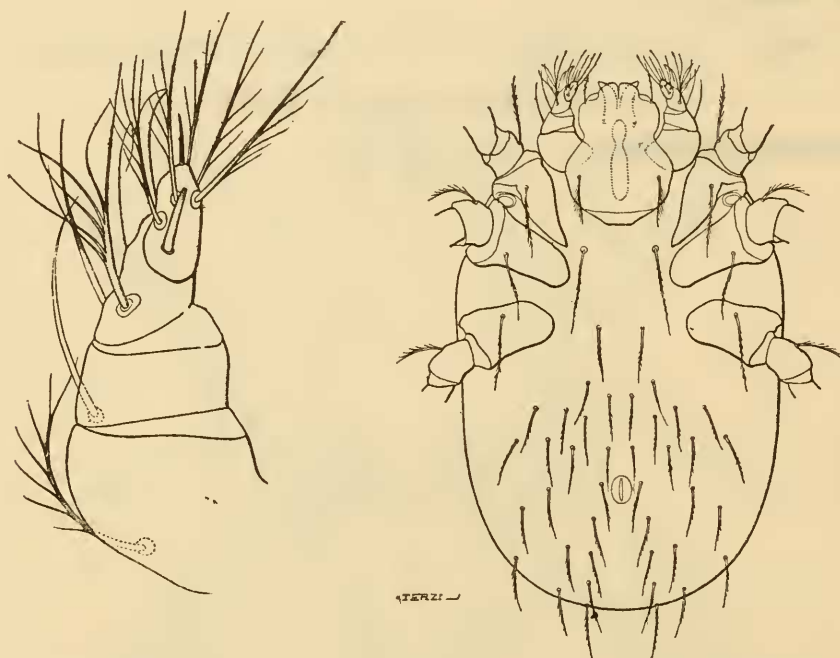


Fig. 4. *Microthrombidium gliricolens*, Hirst; ventral aspect of palp and body.

branch being short. Tarsus furnished with five feathered hairs, and a short rod-like hair near the proximal end, also a little spine near the distal end (fig. 4). *Legs* rather long and slender; furnished with numerous hairs, which are more strongly plumose than those on the body. Besides these feathered hairs, there are also a few rather short hairs or spines on the legs, one being present on the upper surface of the patella of the first and second, and two on the tibiae of these limbs; tarsus of first leg with a rather strong rod-like process above, and a similar, but more slender one on the second tarsus; there is also a very short and minute hair on the tibia and tarsus of the first leg and on the tarsus of the second. A plain subspiniform hair occurs on the patella and tibia of the third leg; tarsus of this limb long, slender and gradually narrowed. *Length* of body .24 mm.

INDIA: Calcutta, a single example from inner part of ear of *Mus rattus*, 20.iii.15 (C. Paiva).

## Genus SCHÖNGASTIA, Oudms.

**Schöngastia indica**, sp. nov. (figs. 5, 6).

*Dorsal surface.* Scutum trapezoidal in shape (width  $\cdot 053$  mm., length  $\cdot 04$  mm.), and furnished with seven hairs (including the pseudostigmata), a hair being present in the middle of the anterior margin; the hairs of the posterior pair are the longest. *Pseudostigmata* situated slightly in advance of the middle of the scutum; the stalk is of moderate length and the enlarged end oval (club-shaped). Ocular shield inconspicuous; the anterior eye oval and well-developed, but the posterior eye obsolete. A hair is situated some distance behind each shoulder in distended specimens, but in examples which are not swollen, this hair is close to and practically forms part of the following transverse series of eight hairs. Behind the middle of the body, there are three transverse series, each of six hairs, and then follows a row of four hairs,

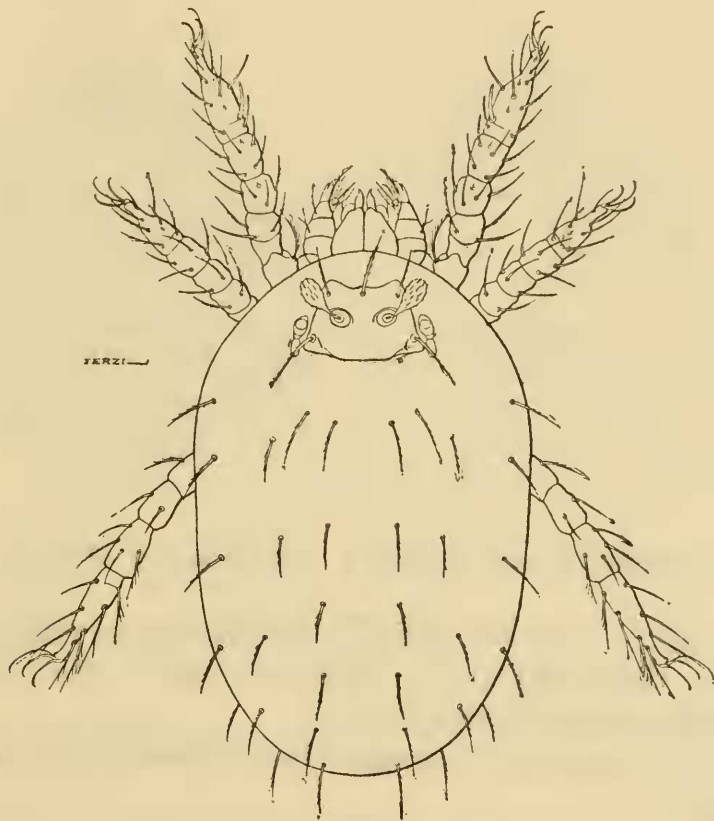


Fig. 5. *Schöngastia indica*, Hirst, sp. n.; dorsal aspect.

finally a pair of hairs at the end of the upper surface; all these hairs are fairly long and rather distinctly feathered. Apparently, there is a very slight transverse furrow behind the scutum and a much more distinct furrow or constriction of the body behind the row of eight hairs. *Ventral surface.* Hairs on ventral surface only moderately long and not so distinctly feathered as those on the upper surface of the body; they are arranged as shown in figure 6. Coxae each with a single long hair, that on the third coxa being very fine. *Palp* with the dorsal hairs only slightly feathered; tibia with two ventral hairs, one of them very slightly feathered; claw bifurcated, the accessory branch being short; tarsus with a little blunt rod-like hair and six (five?) other longer hairs, four of them being distinctly feathered. *Legs* not very

long; tarsi of first and second legs abruptly narrowed, especially the former, and the distal end of these segments is very slender. Third tarsus not very long, but gradually narrowed. There are numerous feathered hairs on the legs and the following plain hairs and processes are also present on them:—One of the hairs on the femur of the *first leg* is very long and fine and apparently not feathered; patella of this limb with two or three plain hairs above; tibia with two plain setae, one of them being apical and somewhat rod-like and evidently corresponding to the larger rod-like process on the tarsus; a very minute hair or spine is also present on each of the last three segments of this leg. Hairs on the *second leg* somewhat similar to those on the first; apparently, there are two plain hairs on the patella and two plain hairs or setae on the tibia; the rod-like hair on the tarsus is slender and not so much curved as that on the first tarsus; the very short hair seems to be present only on

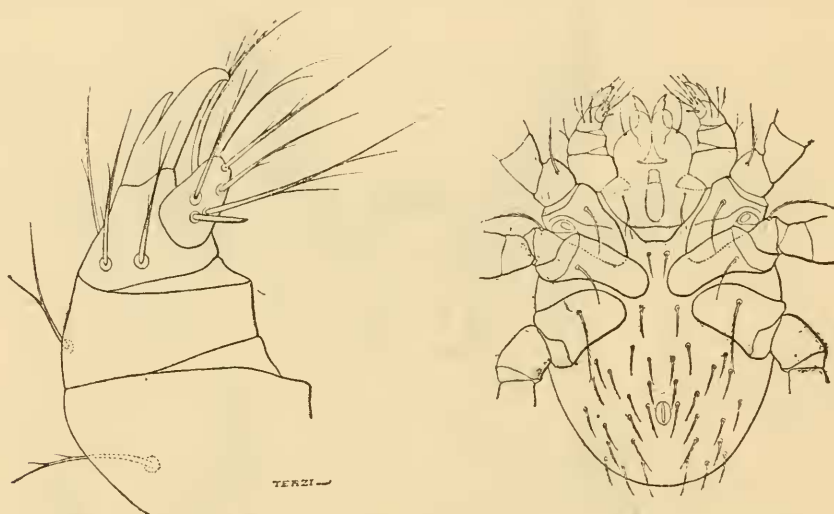


Fig. 6. *Schöngastia indica*, Hirst; ventral aspect of palp and body.

the tarsus of this limb. Some of the hairs on the *third leg* are plain or inconspicuously feathered, others are distinctly plumose. *Colour* (in spirit) white, sometimes yellowish. *Length* of body (distended specimen) .325 mm.

INDIA: Calcutta, numerous examples from *Nesokia (Gunomys) bengalensis*, 22.iii.15 (C. Paiva).

SCHÖNGASTIELLA, gen. nov.

The larval form described below has a scutum rather closely resembling that of *Typhlothrombidium*, Oudms., in shape, but furnished with four pairs of hairs instead of five. Ocular shield obsolete, but a distinct circular eye is present on each side in the usual position.

**Schöngastiella bengalensis**, sp. nov. (figs. 7, 8).

*Dorsal surface.* Scutum tongue-shaped, being much longer than wide (length .08, width .056 mm.); it begins to diminish in width near its middle (at the level of the third pair of hairs) and the posterior extremity is bluntly pointed. Numerous very fine punctations are present on the surface of the scutum and there are four pairs of hairs on it, including the *pseudostigmata*, which have the enlarged end practically

spindle-shaped, the stalk being quite short. Ocular shield obsolete and very inconspicuous; usually only a single distinct circular eye can be seen on each side. A lateral hair is placed on each side of the dorsal surface, almost opposite (slightly behind) the hairs of the third pair on the scutum. Two hairs on each side are placed in a line with the fourth pair on the scutum, so as to make a transverse series of six hairs. Next come three transverse series, each composed of eight hairs; the outer hair on each side being sometimes placed further back than the others. There are also some hairs at the hinder end of the body. *Ventral surface.* Coxae each with a single hair. Numerous hairs are present on the posterior half of the lower surface of the body and they are arranged as shown in figure 8; those near the middle are of small size, but the posterior ones are long; all are distinctly feathered. Fang of *chelicera* large, curved and very sharply pointed; it is furnished with a little ventral

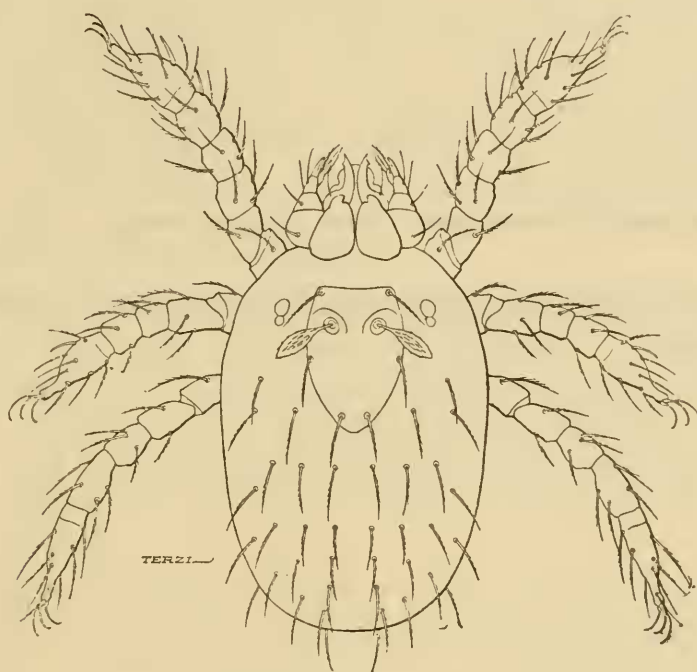


Fig. 7. *Schöngastiella bengalensis*, Hirst, sp. n.; dorsal aspect.

tooth situated just before the end. *Palp* salient and angular externally; hairs on its dorsal surface of moderate length and, apparently, they are not feathered; tibia with only a single ventral hair; claw forked, the accessory branch small; tarsus with a little blunt rod-like hair, and four (sometimes only three?) feathered hairs. *Legs* rather short. Besides the feathered hairs, the following plain hairs are present on the legs:—The patella of the *first leg* has one or two moderately long plain hairs; tibia dorsally with a plain hair of moderate length and also a slender rod-like apical hair; tarsus with a fairly stout rod-like hair and the usual stiff hair is present on the summit of the hump; a very minute hair is also present on each of the three distal segments of this limb. Hairs on *second leg* very similar to those on the first. There is a fine unfeathered hair on the patella of the *third leg*; the rest of the hairs on the distal segments of this limb apparently are distinctly feathered, some of them

being long, especially those on the tarsus ; third tarsus much less abruptly narrowed than the others, but the terminal portion of it more slender than the rest of the segment. *Colour* (in spirit) white. *Length* of body (distended example) .44 mm.

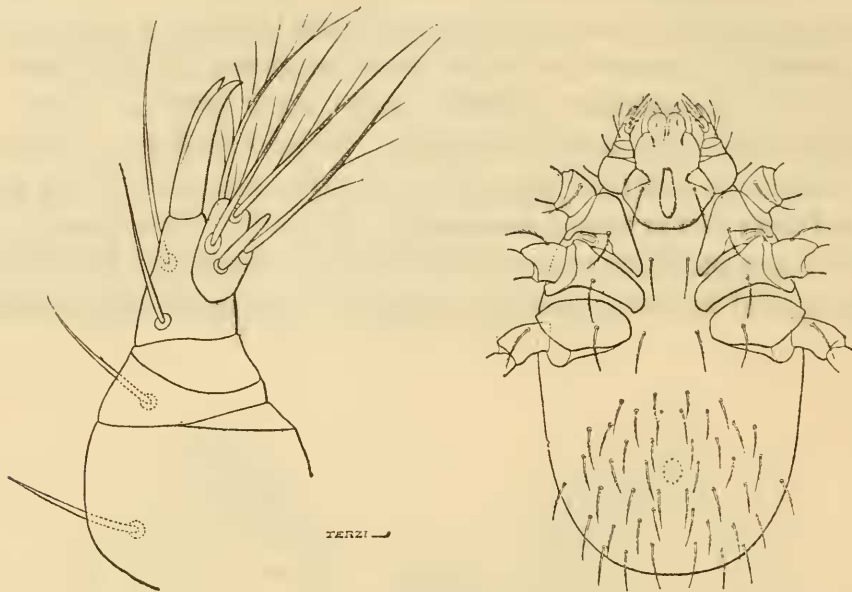


Fig. 8. *Schöngastiella bengalensis*, Hirst ; ventral aspect of palp and body.

INDIA : Calcutta, several specimens from the inner part of the ears of *Mus rattus*, 20.iii.15 (C. Paiva).

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